# AGRICULTURAL DEPARTMENT.

J. P. STELLE, EDITOR.

PUBLISHER'S NOTICE-All communications intended for this department should be addressed o Prof. J. P. Stelle, Fort Worth, Tex.

### ALL ABOUT THE STRAWBERRY.

Our correspondents desire an article on the strawberry and its culture, as shown last week. Beginning that article, in compliance with their request, we would state that the strawberry belongs to the rose family in botany. Its generic name is Fragaria, from frageo (a sweet oder). There are several species in cultivation, but most, if not all, the varietles cultivated in this country are from the American species known to science as Fragaria virginiana.

The varieties under cultivation are numerous, some well adapted to certain regions of our country and some to others. There are few varieties well adapted to all regions of our country. The variety coming nearer to this characteristic than any other is the William's Albany, perhaps. It is not regarded as an extremely high-class berry. but is pussably good. This and another variety called the Neuman are, the berries most extensively grown by the market pardenurs and truck farmers of the South Dr. A. Gemler, an extensive Georgia track farmer, treating on the requirements of a market strawberry, states in his exscellent book, "Truck Forming for the South "pure 235, that they are:

Plant, its admetability to our climat endure the rough handing and dwar of transportation without injury, so that it may agrice in market in a good presentable apparamental condition. The old Wison's alliany and the Neuman meet these rough thous factor than others. The latter is a more attractive and better harored berry,

Our own experience with these two ber ries, in Alabama, has shown them standing a intle different from the way they upmade to appear by Dr. Oonder. Like Dr. Comier, we have found them the best South, for both local and district trade, but with us the Wilson has always proved the better herey of the two, though the Neuman has been the most profitie, and empable of tanding more rough usage than the other. It has not shown upon quite so incre a berry as the Wilson.

Having already referred to Dr. Oemier we may as well draw upon him further for the best Southern methods of cultivating the strawberry-there could be no bette Southern authority. The strawberry, he says, wants a comparatively moist so brough its growing season. The plant i very deep-rooted, its mots having been armoed to the depth of four foot. The strawberry always does best under irrigation. no matter what the rain-fall may be. I needs moisture regularly. Of course it will usually do fairly well without irrigation, but irrigation brings it up to its very best. Surface watering by hand is impracticuble where the crop is grown on a large scale; besides this character of watering loes not give full satisfaction. The soil should be made damp well down, though aw-littee and enturally damp situations will mit do to depend upon unless susceptibesof deep demange. We quote, page 242: A well-drained deeply stirred frimble, more or less chaves or jointy sell, with pentry of vertaken matter, will be more re-lative of most are and nove suitable than any other. If there be any choice of loca-

amorthorn open exposure is to be preture the cathest fruit, will produce smaller. fruiting season is over. This summer failing is the chief

If stable manufer is to be used as a fertilsense of the fruit. This is more likely to your at the South than in a coder climate, and to give applications of manuse are berefore most tractionic at the North.

White large quantities of strong manures are not necessary on airceasty for the clay solin, such sails connot contain too much de-

1)r Cemler then mes on to state that the books broken and thoroughly pulverized, If manure is to be applied it should be sandy, four years make up the time re-The first plowing should extend to a tearing year, in each far new, with a bull-tengue or scooler. Finish up by cutting everything as fine as no subbrewith some kind of suits There are three methods of planting the

trawberny, tone is known as the matted !

bed most all another as the single row or

drill method, and the third as the single hill-

method. The two methods first named new the methods meet common at the North. while the third method is the one almost allows all a removal definition South; It is, herefore the method that we shall proceed describe on the authority of Dr. Oemler, The and naving been thoroughly was mred and sell entirely laver us to ridges, it shid off in strangit rows from three to: breeze and a null Lest apart. The strawberry growers about Mebile. Ala., lay their rows or feet apart. The rows may be arranged ith a carrier line, or more expeditiously by the most a whitely upon the rim of which s fixed tombs or plus at certain regular distances. The impression of the rim upon he soft soil marks the rows, while the impressions of the plus show where to set the lants. The whom is fixed between handles on the plan of a seed-drill or wheelbarrow, and has a standard in front from which the mer can signt to stakes ahead to enable him to keep the row entirely straight. The plants are set from twelve to eighteen

leser on good soil, further on light soil. Strong and well-rooted plants of the same senson's growth are to be set out if the planting is a fall operation; if a spring operation they must be plants of the preceding numbers growth. Plants no older chould ever be used. If the plants have one, strangling roots, those no. " a teimned off-a pair of course shears may be e no close trimming- only the long, straggoing roots, or roots this have a dual appearance, are to be removed. Some persons employ a dibble or shorpened stick to open holes into which to set the plants, but,

mones apart in the row, depending on soil-

trowel a hole may be opened large enough to admit of spreading out the roots of the plant, which is a thing highly advantageous.

If the plants have been shipped from a distance more or less dead leaves will be found upon them; these should be trimmed off. The roots will be more or less dry. and therefore it would be best to "puddle them before setting. "Puddling" means having a pall of very soft mortar with the plants immersed into it up to the leaves, to be taken out as they are set in the ground. If the plants are fresh from neighboring grounds no "puddling" will be necessary. The soil should be firmly pressed around the plants when they are set, and care should be exercised not to leave them standing in a depression below the general level of the natch. Unless we employ some care in this matter, we are apt to settle the "hills" in our efforts to press the soil around the roots of the plants.

Fall is the best time for putting out trawberry plants in the South, though in Texas they might be set out, any time during the winter, and thence on to the last of April. But the fall planting does best. If put out in September or October-they will be apt to yield a considerable crop of fruit next spring, but if set in the winter or pring there would be no fruit, of course for the next season, and the plants for th want of establishment would not be so wel prepared to withstand the effects of the next summer's depuths:

It is always best to use home-grow plants as nearly as possible, and by almenors plants grown in the South. Plants hipped from the North never do so wel for Southern culture as plants grown in the South, even though of the same varietythey are not acclimated.

Clean culture of the strawberry is of amarket berries that could be raised in the special importance. Unless the grower has fully made up his mind to accomplish clean ulture he had best have nothing to do with strawberries. There must be no weeds or cross in the putch if one expects success can be so rupidly ran out by weeds an grace as can the strawberry. But the patch claused on the hill plan is not hard to Respectants. If a large patch a shallow-run ning cultivator will keep all foul-growth ut, up to within an inch or two of the roy the bor can be made to do the rest. If a small patch, the garden rake and hoe can do the work. It is always best to keep the streface mellow by shallow workings after each packing rain. There must be no does working at any tune.

When the plants are beginning to bloom a straw mulch should be spread over the ground. This is to prevent the fruit from becoming splashed with soil in time of rains. Without such protection the ber ries would be quite apt to become seriously damaged. So soon as the fruiting season is over the mulch should be removed to admit of culture. In the pine regions woine straw" is the mulch-material most commonly employed, though almost any kind of straw will answer the purpose-our prairie grasses cut and spread over the patel would make a first-rate mulch,

The best mulch for the plant (not the berry) is a mellowed surface of the soil, hence the recommendation that the fruit-

After the fruiting season the plants will send out runners to form new plants, These must be promptly removed with a hoe or knife, for if left to themselves they will soon spoil the old plantation.

Dr. Oemler does not pretend to state how long a strawberry plantation in the South will remain profitable without renewal. Dr. White, in his "Gardening for the South," says, "The same plat of ground will remain productive many years." Of course much would depend upon the attention paid the plantation. We think a straw berry plantation would hold good much longer on a clay soil well managed than on and for the strawberry paich must be a sandy soil. In the coast regions east of the Mississippi river, where the soil is very broadcasted after plowing, and then worked garded as about the age of a plantation to late the soil by a second cross-plowing, prove entirely profitable. Over there, after the fourth crop has been gathered, the up of the subsoil by following the turn | plants are allowed to throw out runners and establish plants for resetting in the fail. The young plants made by such cunners are the plants that must be set for the new plantation-no other kind would an-

in case of a small plantation merely for home use, other and better varieties than either the Wilson's Albany or the Neuman might be cultivated, but we don't know which, if any, of these better varieties would succeed in Texas, and therefore shall not attempt any recommendation. The two varieties named would do well here, we are sure, and the family having plenty of either will not be ant to much worry over a desire for something better. Of course we don't recommend these varieties exclusively; find out a better variety that will succeed. If you can, and plant it; but If you are in a harry for strawberries it would be best, we think, to plant either the Wilson's Albany or the Neuman to fill the bill, as well as they can be made to do so, until those better and more fancy varieties have been decided upon.

In years back varieties bearing only pis tillate flowers were more or less planted. The old "Hovey's seedling" was a variety of this character. To get fruit from such varieties it was necessary to plant with them certain varieties bearing male or staminate flowers. Varieties of this kind are now pretty generally discarded-all the popular varieties of to-day bear perfect flowers, and hence call for no separate settings of male plants.

# HOG FEEDING MISTAKES.

While the man who undertakes to raise and feed up a drove of hogs may make many mistakes, there are two mistakes of special prominence that are often made, according to the Indiana Farmer. Both are serious evils, constituting heavy barriers in the way of successful hee production. One of these is to feed on starvation rations. and the other is to over-feed with carbonaecous foods. One is as detrimental to the while it is a little more trouble, a morden | thrift and well-being of the hog as the trowel is the best implement to use. The the other. And the careful fooder dibble prepares for crowding the roots to- will guard against either. Just enough and cring. The productiveness of the trees and

observation and judgment to become expert as a profitable feeder; these qualities are of high value in the business, and he who exercises the most care and skill in providing food suitable to the requirements of his young hogs, will reap the best recess of the highest order.

#### WILL IT PAY TO IRRIGATE.

Professor H. Revnolds, M. D., referred to by us in our Popular Science column of last week, now has in the Massachusetts Plowman an article headed as above. The question, he says, is one well worthy of serious consideration, even in the so-called regions of regular rainfall. Water is an indispensable plant food required in large quantities. On this account it is well to make a study of whether or not it would pay to supply water to crops by artificial means, which is irrigation. In some countries no crops can be raised without irrigation, but where an abundant and regular supply of water can be furnished land of apparently very inferior quality is made to produce abundantly. Now the question arises, would it pay to supply water for irrigation in countries where the usual dependence is upon rain? It is seldom that a season passes that there is not some time during the season when there is scarcity of rain, and crops suffer for want of water, perhaps to the extent of diminishing the yield one-half. If a supply of water were available at such times, the crops could be generously irrigated and made to produce their usually abundant yield.

In this connection there are several facts worth considering. Water is absolutely indispensable in plant growth. 

An abundant supply of water is indispensable in the best development of crops.

Growing plants contain more of water than of all other components put together. The water amounts to from seventy to unety-five per cent of their make-up Water is the vehicle through which plants receive their other elements of plant food, It is the solvent which dissolves the elements of fertility in the soil, and presents them to the growing crops for their tree. The carefully conducted experiments of Mr. B. Lawes of England showed that in cheat raising for every pound of dry maiter produced two hundred pounds of water was evaporated, and that for every pound of mineral matter assimilated by the crop two thousand pounds of water passed through the plant. Leguminous plants like beans and clover, require a much more abundant supply of water than wheat. To meet this demand of plants for water Mr. Lawes declares the usual supply of rain water is totally inadequate.

Experiments made by the Montsouri arricultural observatory in France fully confirm what Mr. Lawes has navanced. It was there found that for each nound of grain produced in the experiments, from 727 to 2002 pounds of water were evaporated by the plants. Taking the minimum quantity of water evaporated for each pound of grain produced, there would be required for a crop of thirty bushels of grain per nore a supply of water for evaporation through the plants alone sufficient to cover the field to a depth of four inches. Taking the average of the amount of water required for each pound of grain produced, ascertained by experiments at the same place in 1873, a crop of wheat yielding forty evaporated from the surface of the soil in needful to meet all the requirements of the growing crop. There facts will serve to quired by growing crops, and will also show how important that in case of drouth there should be some means of supplying artifici ally what is needed.

The advantages of irrigation, continues Dr. Heynolds, were well brought out by results obtained at Stoke Park in England, in 1871, when forty acres were irrigated so as to temper the soil when dry weather came in about the last of March, supplying moisture regularly and in sufficient quantity to prevent the surface from crusting. Two crops of hav, estimated at five tons per acre, were taken from this ground, and \$100 to \$500 an acre, mostly without irriga afterward in August, 120 Highland bullocks were turned in, averaging three bullocks to au acre. These remained till November, receiving no food but the irrigated grasses, and were kept in first-rate condition. On the other hand, 430 acres of land adjacent. and of same quality, but not irrigated, be came so withered and bare from the sum mer drouth as to afford scarcely food for cattle or sheep. In 1882, on six acres of this same irrigated land 200 sheep were kept in hurdles in a fattening condition without other food than grass.

Instances have been reported where from sixty to eighty bushels of wheat have been obtained from an acre by irrigation. A Marlboro, Mass., farmer turned the water of a brook which flowed through a town of 8000 inhabitants, and served in part as a sewer, and used it in the irrigation of a thirty-acre field. The water was distributed by means of numerous ditches. During several years past an annual yield of about three tons of hay per acre and two cuttings, with the application of no other fertilizers, has been obtained, and the field continues to increase in productiveness. The water is kept running upon some portion of the field nearly all the season, being changed frequently in its course by building and removing small dams.

This statement tempts us to break off and hint at the great loss some one is sustaining by not arranging to use the sewage of Fort Worth for irrigating and fertilizing purposes. The plan of our sewerage sys tem certainly affor is a fine opportunity for saving an important waste. It passes be low the city, through the bottom lands of the Trinity-a continuation of the pipes no very great distance beyond where the city ends them would bring the discharge to the surface upon an excellent body of bottom lands, making them a very mine of wealth to their owners.

Nearly every farm, says Dr. Reynolds, contains some portion of land that would be benefited by irrigation. Some dry knoll, or sandy expanse, or light soil which seldom produces any paying crop unless the season is very wet, might by irrigation be made to yield well every year. In many cases there are springs or creeks that might be turned upon the lands where waters are needed and be used to great advantage. There are orchards that would be greatly benefited by irrigation. Whenever the soil began to suffer from drouth the water could be turned on, and give the land a good watgether in a narrow hole while with the an more is the proper guide. It requires the quality of fruit would be greatly in-

proved. The man who wishes to get a good ways ahead of his neighbors in the way of fine specimens of fruit, could do so by judicious irrigation of his fruit trees. Where there is no other source of obtaining water, a good well with a wind-mill to turns at the least cost, which means suc- | pump the water affords a ready means of securing the needful supply for a small acreage. A reservoir connected with the wind-mill would serve to hold a supply of water for use whenever it was needed. There is little doubt that many farmers would find it advantageous to make provision for irrigating some portion of their lands, and that they would be well repaid for the expense. It is certainly a matter that should receive the careful attention of our farmers. The enterprising and progressive farmer desires to adopt all means that will premote his objects, and therefore he should consider the matter of irrigation

It may be well for us to add that Dr. Reynolds is applying his article mainly to the Northeastern states, a fact going to prove that an interest in irrigation is taking shape in all parts of our common country. If irrigation would pay up there the ques tion as to whether or not it would pay in Texas is no longer left as an open question. There they can raise but one crop in the season, on account of the short period lying between late spring frosts and early fall frosts. Hore, under irrigation, we could raise three as full crops as their one crop could possibly be made up there, between our frost and frost. And this is not our only special advantage-we have solis that those New England people would be glad to ship 500 miles for application to their best lands as a fertilizer.

## OUR CORRESPONDENTS.

This department is devated to answering such elections as may be asked by our subscribers, which may be at general information. Inquiries of personal character that require answer by mail should always have stains inclosed. Please give full name and postories radies in addition to any such signature as "Subscriber," or "A. G. B." not for publication, if against the will of the writer, but to almit of direct communication should such a thing be described to as a Aldress as direct of the communication.

#### ON CHEAP IBRIGATION.

I have been at considerable pains and ex-I have been at considerance pains and expense to get accurate figures and facts regarding the possibility of irrigation in Southwest Texas. They show more remarkable possibilities of productiveness and wealth, as regards fealts, vegetables, grains, etc., than California. This will be astonishing only because it is new. People have not had the facts set before them, and they are therefore astonicised almost incredulity at what actually exists in wonderful section of the United States.

It takes an average of nearly twenty-eight inches of rainfull per year, distributed at seasonable intervals, to make a crop in an agricultural country. I will put the rainfall at thirty inches and make serie of an abundance of moisture. Thirty inches of rainfall is \$4.628 gallons per acre. Now, if this 84.03 gallons can be turned on the hand just when recold most, and vice-versa, there could be no failure. If a sufficient supply of water is available, this can readily be done. In all Southwest Texas there is an inexhaustible supply of water underground. No well has yet been hered that has failed to spout up from 300,000 to 0,770,000 gallons a day. I will take the median wells—500,000 a day. This will give 182-744 000 m times a very or sufficient to the 500,000 gailons a year, or sufficient to ther-oughly registe 215 acres of find. But since this water could be turned on and off at will, giving the ground just what was needed and no more, at the right time, it would do away with the surplus, usually amounting to one-third, and would thus

easily irrigate at least 2800 acres of ground bushels per acre would require an amount of water sufficient to cover the field to a depth of sevanteen inches. Taking into consideration the large amount of water water the large amount of water evaporated from the surface of the soil in nisned. As 1000 feet is the deepest you have addition to that required for the plants, it to go to get from seven hundred thousand to is evident that a large supply of water is two million gallous a day in a six-inch well, neadful to meet all the requirements of the ditch irrigation would cost \$2 an acre every year the well would be \$1850 less on 2800 acres the first year, and nothing after that. I make no comparison of cost of conduit for distributing the water on your land, the thing would be the same in either s tem. But in the matter of elevation, th well system is superior to any other method since these wells all have force sufficient to carry water up lifty feet or more. A common well with a windmill pumping on non well with a wholamic pumping only 10,000 gallons a day—a small amount—will irrigate forty acres. Three-hech drain the can be had, in small quantities, at \$20 a 1000 feet; for less in large quantities.

Will it pay? Ask Joe Triplis of Rockport.
Cant A C. Jones of Beyelle. J. Longe of

Capt. A. C. Jones of Beeville, J. Josey of Luling, T. B. Colman of Hallettsville, Wm. Armstrong and Mrs. Andrew Dullnig of an Antonio, and others, who make from tion. This soil and climate raises every-thing raised in California, and more and of better flavor and quality. Fortunes await those who will follow the suggestions in this article. Wat. A. Bowen, his article. WM. A. Bowen, Sec'y San Antonio Commercial Exchange.

San Antenio, Tex.

# MORE ON PEANUT CULTURE

Your article on peanut culture ought to be "worth its weight in gold," as we say, to the people of Texas. I am an old Vir inia peanut raiser and, therefore, can ouch for the correctness of your article is every particular.

Like all other crops, good seed is neces sary to successful peanut culture. The n mistake. The white Virginia is a verpopular variety, always commanding good prices on any market. It takes about thirty pounds of white Virginia to plant one acr The Carolina red is a larger peanut that the white Virginia. It takes better on some markets on account of its larger size and will bear planting close together. I cannot explain why this last is the case, but it is an accepted fact. The vines do not spread quite so much as do those of the white Vir quie so main as do those of the white Virginia. It takes about fifty pounds of the Carolina red to plant an acre. But the white Virginia beats it in yield every time and is, therefore, the nut that I would recommend for Texas. It is a nut of universal popularity, while the Carolina red is popular only on certain markets.

Peanuts do best on a rich loam inclined to sandy, as you state. A situation comparatively dry is best for them. They will to well enough on land reasonably moist but on a moist land the nuts ripen to more or less of a straw color, which is never a popular chade on the market.

A hard and baking soil should never be devoted to the peanut crop, as such a soil would be against the yield, to say nothing of the fact that the nuts are crooked and mis-shaped. A crooked and I-shapen nut is never popular.

Peanuts should be cultivated about the same as corn, not allowing weeds or grass to grow in the field, and keeping the sur-face of the land loose and mellow, especially when the spikes are forming. So soon the flower stems start out there should be no further cultivation. Cultivation after this causes the nuts to blight or not fill out. As you state, the blossoms must never be covered up. To think that peanut blossoms must be covered up is to think entirely erroneously. Leave them alone when the are ready for fruiting-the very turbance they can have, after that time, the

better it is for the crop.

Peanuts should be harvested so soon as most of the nuts are ripe. To leave them very late in the hope that the last nuts set will fill out and ripen is a mistake, as h this course you lose more than you gain.
When the earliest nuts are overripe the stem connecting them with the main vin dries up and loses strength to hold the nui in handling, so you lose the early nuis in handling, so you lose the early nuts it you wait too long; besides, those very late auts are invariably too small to be of much

Your plan of harvesting the nuts is correct as practiced in Virginia. The vines

make good hay, as you suggest, but no rain must be permitted to fall upon them. Leave the vines to cure well in the sun before housing, if there is no danger of rain. You need not be in a hurry about picking and sacking the nuts after the vines are under shelter. Take your time about it, which will enable you to get your nuts sacked in better shape and also to use them labor in better shape, and also to use cheap labor in handling th

I am satisfied that Texas can raise peanuts to the greatest perfection, and I am sure that some day our people will be earn-estly thanking the Fort Worth GAZETTE for starting the peanut boom in the Lone Star OLD GOORER.

Dallas, Texas.

We are ourself satisfied that the peanut can be made a grand success as a profitable crop for Texas. On several previous occasions we have stated as much. They say republics are ever ungrateful, and if this be so The Gazette may never receive many thanks for its effort in the premises, but THE GAZETTE is not overly particular about that kind of thing, anyway. The consciousness of having done a good work for Texas will be to our satisfaction without regard to who does or does not get credit

## THE EL PASO GRAPE... I must take the liberty of stating that I am more than pleased with your essays on

various subjects, as appearing in the Port Worth Gazette, and I do hope they will not be allowed to stop in a newspaper. not be accord to stop in a newspaper. Nothing like them has appeared before in Texas, and for Texas, and if Tex Gazerra, or somebody else, would collect them together in book shape they would form a volume of agricultural and horifeafural literature whose usefulness to our state could not be estimated. Already I can think of essays enough to make a wood-sized book, all plain and practical; as, for instance, your essays on pecan culture, on barley culture, on sugar cane collure, on sweet potato culture, on navy bean culture, on event potato culture, on peans culture, on chafa culture. distant that shall find it upon the murket. But, libe your other correspondents, I stock my pen in hand? to usk you for information. In a late issue of The Gazarra you arged the people of Texas to look after the mustaing grape, adding that good varieties might be found and propagated, and that when found they would give us a grape which would be for all Texas, what the the Paso grape is for his Paso. Can you throw any light on the origin of the fatnous Fl. Paso grape. Is it a native of the El Paso region? Does it grow wild then? Please answer through The Camping and much about the first of the contract and much and grape.

CONSTANT READER. Parker County, Tex. Thanks The origin of the old Paso grape," as we call it in the cities and towns to which it is shipped from Et Paso, is not a matter of record. It is simply the old "Mission grape" of California, and there fore El Paso has no right to have her name appended to it. In all regions west of El Paso it is known only as the "Mission grape." This name was given it on account of the fact that it was grown at the eld Missions of the Pucific slope, but where or how the old Missions got it nobely new

#### MUSTANG GRAPE WINE

Will you kindly tell me through Tun Gazerra how to been mustany grape wine for home use without the caployment of either surar or alcohol? If sugar must be used what is the least proportion of sugar that would keep it well? Please cuswer soon as the grape season is almost over, and much philes. Fort Worth, Texas.

Lack of information on our part as to the per cent of saccharine matter contained in the luice of the mustane grape, leaves your question a somewhat difficult one to answer. It may be possible that there is sugar enough in the mustang grape to cut off all need of adding sugar in wine-making, though we rather incline to the opinion that there is not, considering the grapes in the wild state, as gathered from the woods, Julce of the scuppernoug grape requires and a half pounds of good brown sugar to the gallon of juice, to make a first-class wine. Notice that we may "brown sugar," for the white sugars are not upt to be near so sweet as the brown sugars-most of

cose or grape sugar. We think a pound and a half of sugar to the guilon of juice would be entirely sure for the mustang grape. Should this proportion of sugar be too high you would soon know it from the fact that the juice would not ferment. Having discovered this trouble, which would manifest itself within a week, you could apply a remedy in the addition of a little water.

them are more or less adulterated with glu-

No alcohol is needed if you use sugarthe office of the sugar is simply to make alcohol. Without this alcohol the juice, or 'must," as wine-makers call it, would ferment too much and soon become vinegar. The sugar must be added at once, so soon as the juice is pressed from the grape.

An unfermented wine is often made from various varieties of the grape. To make it, place the grapes in a kettle of suitable size. and add just water enough to prevent them from scorehing when heat is applied. Boll fifteen or twenty minutes and then remove from the fire. All the grapes will be broken by the boiling process. So soon as cool enough to handle place in a strong cotton sack and squeeze out the juice. Strain the Juice and put into common beer bottles when cool. Set the bottles in a vessel containing water at about their own temperature, and gradually bring up to the boil. Now take out the bottles, one at a time, and cork tightly as beer bottles are corked. No wiring is necessary, but it might be well to cover the heads of the corks with scaling

This is unfermented wine. Stored away n a cool place it will usually keep indefinitely. It makes a very nice and wholesome drink, and while people call it "unfermented wine," it is really not wine at all, but simply canned grape juice,

We cannot vouch for how the mustang grape would serve the purpose of making infermented wine. It would make the wine all right, no doubt, but there may exist a possibility that the peculiar acrid juice in the skins of the species would be brought out by the boiling, and would not prove good in point of either flavor or effect in the throat, when swallowed. You know, of course, that this juice of the skins produces a burning sensation in the throat if swallowed when one is eating the grapes We don't know that anything of the kind would attach to the unfermented wine. neither do we know that it would not. Of course practical test would soon settle the

# PLASTER OF PARIS.

Please give us through THE GAZETTE the processes of burning gypsum to make plas-ter of Paris. State how it differs from burning a lime kiln. Let us know if it ca be used for plastering tanks to hold war for stock, or for garden irrigation. I find t hard to make some tanks of earth that will hold water above ground in Tulia, Tex. H. H. L. BRALY.

The processes of burning gypsum to make plaster of paris do not differ metally

lime. There is no chemical action in either | "A body, then, would be colder than case—the water is simply driven our by | configures afmosphere before the dew fort at restoration to the original condition | mosphere is entirely saturated with a is made. The plaster burners of France, und If a fully saturated atmosph where extensive works are carried on be- over a surface but one degree loss cause of unusually pure gypsum existing temperature than that maintained by there, have their kilns neater and better atmosphere, there must swith other made than do our American lime burners, favorables, be a deposit of dev. 19 but beyond this there is no particular dif- not be a regular spider web locate. ference. After the gypsum is calcined or dealers, but it will be detected burned it is finely ground in mills, and for even though in quantities so an the finer qualities passed through bolts like | require instrumental test for de-

Plaster of paris does not stand overly | temperature one degree below that well in water, and therefore is not suitable | ture of the atmosphere. If the enfor plastering water tanks. It is too porous | perature was still lower the dofor advantageous use as a water-holding from a saturated atmosphere of cement. The best substance to employ in perature just considered would be such cases is the hydraulic coment or of course water time." There is a factory at San-Antonio manufacturing hydraulic cement, we think. Large quantities of it are made along the Tennessee giver below Florence,

Portland cement, now generally imported (though there is a factory turning out a very good article at Fort Worth). makes a very fair water plaster, though we cannot look upon it as entirely so good as hydraulic coment for such purposes,

#### THE BEENFOA ONION IN TENAS.

Do you think the famous Bernauda enion, raised on the Bernauda Islands, and now so raised on the Bermuda Islands, and now so common on the early Northenstern markets, could be made to succeed in this south miportion of Texas! If so, please tell us all about it and how they call bate it to in the Bermudas. I suppose it is macrossity for me to offer in apoleous for intrading upon your time and patience, since I see that everybody is after you for information, and that you are not fileling in the transaction, and that you are not fileling in the transaction.

C. C. Storts, C. Linderson, in the real particular of the property of the prop

No kind of apology is due us -the more the merrier.

The Bermuda orden so entire gets the

name from being extensively grown on the Bermania islands and thence shipped to this | region of high downpoint, or, no country; but the name is a misnomer, for it country as the Muderia. No onion seeds are raised on the Bermudas, and all the mions raised there are from sends of the Muderia variety imported from the south of France (Oemler). So then, as you see, the famous Bermuda onlors are nothing more nor less than Bernauda-grown French

We are situated that the Maderia onion or Bermuda outen. If you prefer to call it by that name), would succeed to perfection in Southern Texas, and we are by no means sure that it would not succeed in all parts d'incatate, escecialle underimination. In the noutbern part of the state the cross-could subtless be grown to put mon-the market. a full competition with the crops from Bermuda. We can see no kind of good reason against this. Provide is making a rueess of the variety, and certainly South Pexas, with her decidedly bestersoil advantages, and with ornal climatic advantages. build do more with it than Plorida is doing

It would be best to order seed direct from rance, as the seed of the onlon is of shor fe. Seed more than one year old would se rather unreliable, and hence unless the rrower not his seed direct from headpareters be would stand a very fair chance of finding himself menkeying with unrel

Fall would be your time for sowing the seed—say in November—but you might get good groups by sowing as late as January, The soll best adapted to the crop is a deep rich, friable mould, full of vegetable mut- air has lost so much moisture that a lost ter. The river and creek bottoms of Texas, temperature of eight degrees would be where naturally well drained, would suit the Maderia onion to the highest degree Heavy land, deficient in decomposed vecetable matter, is not well adapted to the crop, as the bulbs, would be comparatively

flery taste.—(Oemler.) Although the onion is a shallow-motein plant it requires that the land for it should be deeply broken and thoroughly pulverfrod Sow on parrow lands ten or twelv feet wide, drilling the seed in rows fifteen inches apart. Roll lightly after sowing. In fair weather the plants ought to be up in about two weeks

small, and would have a more pargent or

The thing indispensable for success with the onion is clean but shallow culture. Go over the ground often with rakes or other suitable implements, and keep the surface mellow. Never allow weeds or grass to start in the rows-pull them out by hand as soon as they appear. When the young plants are established thin down to about four inches apart in the row, if you desire large and fine bulbs-three inches apart would give a heavier yield but the bulbs would not be so large - (Oemler). The plants taken out in thinning may, if the weather is favorable, be transplanted to other beds, where they will do almost as well as those of the original sowing. The roots should be put down straight and the plants set a little deeper than they were

growing before removal. In harvesting, the onions are simply pulled by hand at ripeness, and left upon the ground a day or two to dry, after which they are gathered and the necks cut off with a sharp knife, when they are ready to pack for market.

# THAT DEW POINT ONCE MORE.

Please accept my thanks for your clear indevidently correct answers to my ques-dons sent you last week but there is still You have settled the question as to what a lew point is by your quotations from Pro-esser S. M. Pendleton, M. D., but since all his talk has been about "the dew point please state through The GAZETTE what de-gree of each temperature below that of the air can be regarded as "the dew point." I think this ought to settle the matter under Fort Worth, Texas.

This springs an entirely new obestion, but we are willing to go in with our folks on streaks or rays. anything bounded by the pales of reason, so here goes:

The original question put to us was as to a high dow-point or a low dew-point averaging in Northern Texas. We gave it as our opinion, based upon the teachings of modern science, that the dow-point was high, compared to that of regions along the sea be among them at some great observators' coast. Having no direct authority to what | and hear them talk about things on the we could refer, we gave our reasons for the | moon. They make use of the names 2. faith that was in us, and while others may and speak of localities exactly as one would not be satisfied with those reasons we must be permitted to state that for curself we are entirely satisfied.

We have no acknowledged authorities to quote in answer to this new question of yours, and so far as we know there are none, so we must reason again on the teachings of modern science.

Dew is moisture condensed from the atfrom those of burning limestons to make that maintained by the said atmosphere. not be seen even with the Lick telescope

heat, and that is all there is of it. Why the | be deposited upon it."-[Pendieton | it. article hardens afterwards, when mixed much older that body must be conwith water, comes of the fact that you me largely aron atmospheric conditions. The ceiving the water driven out by heat an of- can be condensed only in case where the such case the dew point would so

> In case where the atmosphere saturated with meleture being tracted into saturation in contact colder surface are alew nor Is-We will suppose that the night temperature of the degrees, and saturation; the temperature of surface would then have to store reduction of gir to saturation made tend half a dozen inches above the

Thus, you seen that white the repoint," a "boiling bolat," and are can be no regular dew point, own scant variation of conciners. way to get at the "dew point," so a region as to high or low would be age through a given time the earth. ature bringing dew. If the average

Without the knowledge of tests we have reasoned that of the giors marged North Texas must be atmosphere at the cogst necessilower range of earth temperature t from the nir temperature the lowest a If variation might be found at the ... e what regularly belonged to the it can a for as related to the average each to ture necessary to give dew. The of probability, be nearer a state of satu had rolled inland to, say, Fort Work struck the inni. But it would water can be made warm as well as can be raised to the builing point. suppose the air stelles, the count in a perature of 4% degrees, and the

r temperature four degrees would put it into that condition: there are earth temperature of 60 degrees w leave a trace of descupon the hand. He the time it has rolled inland to Fort Worth the seary to contract it into enturation: he same time its own temperature for been lifted to 70 degrees. Deduction of light degrees we have our dew point at an earth temperature of 61 degrees one Of course this is theory, but it ...

ainly reasonable and the best that can be offered in the absence of a suries of act at

The old other hygrometer marking a res dar dew point has long slace gone to the things that were, and the notion of such as idea as pointed out by that once popular instrument lives now only in the mind of people who read old scientific literature

# POPULAR SCIENCE.

SOME NEW THINGS BEING SEEN IN THE MOON.

A New Volcano Maps and Names May terious Luminous Rays-Great Discoveries Expected.

Astronomical photography has acplished many very wonderfurthings but among them all nous, are more won lift. and surprising than are brought to incut to its recent work upon the moon. According to Prof. Titcory "ne moon i so near " . comparatively appailing, and has been at carefully studied with the most powerf ? telescopes for hundreds of years, that -: astronomers had come to think that they knew pretty much all about it, or, at least about that face of the moon which is burn i toward the earth. But it turns out that photography possesses the power to reveal things upon the moon which cannot be seed. by the eye, even with the aid of the best telescopes. A careful study of the succession tives of the moon, made with the ald . 1 12 great Lick telescope, has revealed the exaence of many unknown objects there in cluding great crater mountains and viles of chasms in the surface of the moon, as we a as some of those mysterious objects that 49 under the descriptive name of bright

For the benefit of our young readers, wa may state that astronomers have actually mapped the moon out, as a equatey would be mapped, and have given names to 23 ranges of mountains, mountain peaks tole canoes, valleys and plains, on seen through their great telescopes. It is interesting to speak of the various localities in North America, never mentioning the moon in connection with what they are saying. But to this new work of photography.

Near the great volcanic crater which 35. tronomers call Copernicus another crater of nearly equal dimensions is shown upon the negatives, although it is absent from the mosphere by an earth surface colder than | most elaborate maps of the moon, and can-